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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,777	02/20/2004	Wayne T. Holcombe	INT03-002US(P1997US)	6671

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FRANCISSSEN PATENT LAW, P.C.
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CHICAGO, IL 60604

EXAMINER

BRINEY III, WALTER F

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/783,777

Applicant(s)

HOLCOMBE ET AL.

Examiner

Walter F. Briney III

Art Unit

2646

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-24 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 1, 6-10 and 13-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hollenbach et al. (US Patent 6,205,219) in view of Talambrias (US Patent 2,977,547) and further in view of Dayton (US Patent 5,095,282).**

Claims 1, 6-10 and 13-22 are rejected for the same reasons presented in the Non-Final Office Action filed 21 February 2006.

2. **Claims 2, 3, 11, 12, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hollenbach in view of Talambrias in view of Dayton and further in view of Smith (US Patent 4,292,595).**

Claims 2, 3, 11, 12, 23 and 24 are rejected for the same reasons presented in the Non-Final Office Action filed 21 February 2006.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

3. **Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

Claims 4 and 5 are objected to for the same reasons presented in the Non-Final Office Action filed 21 February 2006.

Response to Arguments

Applicant's arguments filed 21 February 2006 have been fully considered but they are not persuasive.

With respect to claim 1, the applicant alleges on page 2, lines 12-33, of the current response that the references teach the use of operational amplifiers, which are essentially different than transconductance amplifiers; the examiner respectfully disagrees. The applicant correctly notes that operational amplifiers are, in general, voltage-controlled voltage sources. The applicant also correctly notes that transconductance amplifiers preferably have low gain and current outputs. However, it is important to note that transconductance amplifiers are conceptual models while operational amplifiers are physical devices. A transconductance amplifier is one of four amplifier models. The mere fact that one of the four models was used in a circuit design does not necessitate a physical difference in the underlying physical amplifier. Even if an operational amplifier is optimized as a voltage amplifier, for example, any person of ordinary skill in the art would immediately recognize the fact that it can still be modeled as a transconductance amplifier using the simple mathematical transformation:

$$G_m R_o = A_{vo}$$

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where G_m =transconductance gain (i_o/v_i), R_o =output resistance and A_{vo} =voltage gain.

The applicant further alleges on page 3, lines 1-27, that the references do not teach or suggest the use of transconductance amplifiers, but as shown above, the references inherently support their use. As all of the applicant's arguments concerning claim 1 have been shown to be either moot or unpersuasive, the rejection of claim 1 is maintained.

With respect to claim 8, the applicant alleges on page 3, lines 28-34, of the current response that the references teach generating voltages instead of currents; the examiner respectfully disagrees. As shown above, a so-called "voltage amplifier" is easily modeled as a "transconductance amplifier." The mathematical formula shows that a voltage amplifier will inherently produce an output current:

$$i_o = G_m v_i = (A_{vo}/R_o) v_i$$

where i_o =output current and v_i =input voltage. As all of the applicant's arguments concerning claim 8 have been shown to be either moot or unpersuasive, the rejection of claim 8 is maintained.

The rejections of all other claims not expressly treated above are maintained for the same reasons as claims 1 and 8.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F. Briney III whose telephone number is 571-272-7513. The examiner can normally be reached on M-F 8am - 4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SINH TRAN
SUPERVISORY PATENT EXAMINER

WFB